**Product Implementation (Sprint 3)**

*Weather Forecasting App*

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| **Team** | The Cool GROUP |

As part of your project your task for Spring 3 is to update the current version of your project with **additional** or **extended features**. Besides updating **Requirement Template** and **Design Template** you are **required** to answer the following questions regarding the new FR/NFR or existing FR/NFRs that you added or updated in your project.

* **NOTE: Each of the student is required to update the following FR table given below with 10 questions regarding the <new functional feature(s)> that you will be adding to your existing application.**
* **NOTE: Please work individually and not share your answers with your team members unless they are group-based.**

**Definition**: **Functional Requirements (FRs)** – Functional requirements define the basic system behavior. Essentially, they are what the system does or must not do, and can be thought of in terms of how the system responds to inputs. Functional requirements usually define if/then behaviors and include calculations, data input, and business processes.

# Student: [Michael Bertucci]

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|  | **Functional Requirements (FR) Questions** | **Functional Requirements (FR) Answers** |
|  | **Questions** | **Your Answers should be listed below** |
| **Individual** | **Q1:** To add the **<new functional feature>** how many files you needed to update? | **A1: We would only have to update two files, one that computed the mean, as well as the weekly/daily high and low. Then we would have to update the gui to include this and display it.** |
| **Individual** | **Q2:** If several files were changed did the **maintainability** aspect of the code **increased** or **decreased**? | **A2: If several files had multiple changes, it would decrease the maintainability. The more files and code there is the harder it is to maintain.** |
| **Group** | **Q3:** What were the **keywords** that you [**used/thought of/searched for/discussed/]** with your team members when you decided to add the new feature(s). **Please list them all.** | **A3 – daily High/daily Low/daily:** Mean, High, Low  **A3 - weekly High/weekly Low/weekly ():** Average, High, Low, Index, total. |
| **Individual** | **Q4:** What were the **keywords** that you [**used/thought of/searched for]** when you worked on a feature on your own. **Please list them all.** | **A4 - UserLogin():** User Storage, User Information  **A4 - UserAuth():** User database, Authentication  **A4 - Forecast():** Processing, Tracking, Planning  … |
| **Individual** | **Q5:** Please rank the **keywords** from **Q4** by providing a ranking score between [1-5] 5 being the **most informative** **keyword**, and **1** being the **least informative** **keywords** | **A5 UserLogin() :** <User Storage> <5>  **A5 - UserAuth() :** <User Database> <2>  **A5 - Forecast() :** <Processing> <1>  … |
| **Individual** | **Q6:** Explain the reason why certain **keywords** were more **useful** to help yourself better implement the new **<functional feature>** that you added in the code vs. the one that was not useful or that you needed to **change** or **discard**. | **A6: If you are descriptive with your naming convention, then you will not have to fully go through the documentation and code to understand what the function does.** |
| **Group** | **Q7**: What were the **phrases** that you **[used/thought of/searched for/discussed]** with your team members when you decided to add the new feature(s). **Please list them all.** | **A7 - UserLogin():** “how to properly set up user registration”  **A7 - UserAuth():** “how to easily authenticate a user”  **A7 – Forecast():** “what weather information is displayed on a future forecast”  … |
| **Individual** | **Q8:** What were the **phrases** that you [**used/thought of/searched for]** when you worked on a feature on your own. **Please list them all.** | **A8 - UserLogin ():** “what information is needed for user logins”  **A8 - UserAuth():** “what are some different ways to verify a user in a database” |
| **Individual** | **Q9:** Please rank the **phrases** from **Q8** by providing a ranking score between [**1-5]** **5** being the **most informative** **phrases**, and **1** being the **least informative** **phrases.** | **A8 - UserLogin ():** “what information is needed for user logins” <5> feels simple but detailed and allows us to get a large amount of information.  **A8 - UserAuth():** “what are some different ways to verify a user in a database” <5> shows the results we are looking for and helps us verify multiple ways in case we run into errors. |
| **Individual** | **Q10:** Explain the reason why certain **phrases** were more **useful** to help yourself better implement the new **<functional feature>** that you added in the code vs. the one that was not useful or that you needed to **change** or **discard**. | **A10:**  **The functions that we had to discard where due to either errors in logic, or the fact that the function was truly not needed. We didn’t know that the function was not completely necessary until we tested it.** |

**General Question:**

Please, in a few words describe the **strategy** you used to log/list your keywords **[before/while/after]** coding functional/Non-functional requirements (NFRs/FRs).

# Non-Functional Requirements (NFR)

Add or update new features related to non-functional requirements that pertain to:

* Functional Suitability or (Accuracy) **(A)**
* Performance Efficiency **(P)**
* Compatibility **(C)**
* Usability **(U)**
* Reliability **(R)**
* Security **(S)**
* Maintainability **(M)**
* Portability **(Pb)**

***See the characteristics for each NFRs above:*** [***https://iso25000.com/index.php/en/iso-25000-standards/iso-25010***](https://iso25000.com/index.php/en/iso-25000-standards/iso-25010)

* **NOTE: Each of the student of each team is required to update the following NFR table given below with 10 questions regarding the <new non-functional feature(s)> that you will be adding to your existing application.**
* **NOTE: Please work individually and not share your answers with your team members unless they are group-based.**

**Reading Supporting Literature: We recommend reading the following papers to help you with the questions.**

**[1] On Non-Functional Requirements**

<http://www.ptidej.net/courses/log3410/summer11/Lectures/Article_6.pdf> (online google scholar source)

**[2] On Non-Functional Requirements in Software Engineering**

<http://ce.sharif.edu/courses/96-97/1/ce475-1/resources/root/NonFunctionalRequirements.pdf> (online google scholar source)

**[3] Rethinking the Notion of Non-Functional Requirements.**

<http://www.ptidej.net/courses/log3410/fall11/Lectures/Article_5.pdf> (online google scholar source)

**NOTE: <\*NFR Type\*> refers to the NFR type that you implemented. It could be the followings: 1) Accuracy (A), 2) Performance Efficiency (P), 3) Compatibility (C), 4) Usability (U), 5) Reliability (R), 6) Security (S), 7) Maintainability (M), 8) Portability (Pb) or 9) Other NFR (O)**

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|  | **Non-Functional Requirements (NFRs) Questions** | **Non-Functional Requirements (NFRs) Answers** |
|  | **Questions** | **Your Answers should be listed below** |
| **Individual** | **Q1:** To add the **<new non-functional feature>** how many files you needed to update? | **A1:** |
| **Individual** | **Q2:** If several files were changed did the **maintainability** aspect of the code **increased** or **decreased**? | **A2:** |
| **Group** | **Q3:** What were the **keywords** that you [**used/thought of/searched for/discussed/]** with your team members when you decided to add the new feature(s). **Please list them all.** | **A3 - feature\_name(), <\*NFR Type\*>:** <keyword 1>, <keyword 2>….<keyword\_n>  **A3 - feature\_name(), <\*NFR Type\*>:** <keyword 1>, <keyword 2>….<keyword\_n>  **A3 - feature\_name(), <\*NFR Type\*>:** <keyword 1>, <keyword 2>….<keyword\_n>  … |
| **Individual** | **Q4:** What were the **keywords** that you [**used/thought of/searched for]** when you worked on a feature on your own. **Please list them all.** | **A4 - feature\_name(), <\*NFR Type\*>:** <keyword 1>, <keyword 2>….<keyword\_n>  **A4 - feature\_name(), <\*NFR Type\*>:** <keyword 1>, <keyword 2>….<keyword\_n>  **A4 - feature\_name(), <\*NFR Type\*>:** <keyword 1>, <keyword 2>….<keyword\_n>  … |
| **Individual** | **Q5:** Please rank the **keywords** from **Q4** by providing a ranking score between **[1-5]** **5** being the **most informative** **keyword**, and **1** being the **least informative** **keywords** | **A5 - feature\_name(), <\*NFR Type\*>:** <keyword> <5>  **A5 - feature\_name(), <\*NFR Type\*>:** <keyword> <3>  **A5 - feature\_name(), <\*NFR Type\*>:** <keyword> <2>  … |
| **Individual** | **Q6:** Explain the reason why certain **keywords** were more **useful** to help yourself better implement the new **<non-functional feature>** that you added in the code vs. the one that was not useful or that you needed to **change** or **discard**. | **A6:** |
| **Group** | **Q7**: What were the **phrases** that you **[used/thought of/searched for/discussed]** with your team members when you decided to add the new feature(s). **Please list them all.** | **A7 - feature\_name(), <\*NFR Type\*>:** <phrase 1 >, <phrase 2>….<phrase\_n>  **A7 - feature\_name(), <\*NFR Type\*>:** <phrase 1 >, <phrase 2>….<phrase\_n>  **A7 - feature\_name(), <\*NFR Type\*>:** <phrase 1 >, <phrase 2>….<phrase\_n>  … |
| **Individual** | **Q8:** What were the **phrases** that you [**used/thought of/searched for]** when you worked on a feature on your own. **Please list them all.** | **A8 - feature\_name(),<\*NFR Type\*>:** <phrase 1 >, <phrase 2>….<phrase\_n>  **A8 - feature\_name(),<\*NFR Type\*>:** <phrase 1 >, <phrase 2>….<phrase\_n>  **A8 - feature\_name(),<\*NFR Type\*>:** <phrase 1 >, <phrase 2>….<phrase\_n>  … |
| **Individual** | **Q9:** Please rank the **phrases** from **Q8** by providing a ranking score between **[1-5]** **5** being the **most informative** **phrases**, and **1** being the **least informative** **phrases** | **A9 - feature\_name(), <\*NFR Type\*>:** <phrase 1 >, <phrase 2>….<phrase\_n>  **A9 - feature\_name(), <\*NFR Type\*>:** <phrase 1 >, <phrase 2>….<phrase\_n>  **A9 - feature\_name(), <\*NFR Type\*>:** <phrase 1 >, <phrase 2>….<phrase\_n>  … |
| **Individual** | **Q10:** Explain the reason why certain **phrases** were more **useful** to help yourself better implement the new **<non-functional feature>** that you added in the code vs. the one that was not useful or that you needed to **change** or **discard**. | **A10:** |

**General Question:** Please, in a few words describe the **strategy** you used to log/list your keywords/phrases **[before/while/after]** coding functional requirements (FR) and nonfunctional requirements (NFRs).